

What is claimed is:

1 1. A power source circuit for a cell for controlling transfer  
2 of electric energy from said cell to loads, wherein a device  
3 employing said power source circuit is operated in a manner that,  
4 when a discharge voltage of said cell becomes lower than an  
5 operation lower limit voltage of said device to be operated, a  
6 voltage output from said power source circuit for said cell is  
7 made higher than said operation lower limit voltage of said device  
8 by using a voltage increasing unit.

1 2. The power source circuit for a cell according to Claim 1,  
2 wherein an amount of voltage drop in said cell per unit time is  
3 employed as a factor for detecting termination of discharge of  
4 said cell.

1 3. A power source circuit for a cell for controlling transfer  
2 of electric energy from said cell to loads, said power source  
3 circuit comprising a cell voltage detecting circuit to detect a  
4 voltage of said cell, a discharge controlling circuit, an output  
5 voltage detecting circuit, a step-up DC-DC converter, a switching  
6 circuit to switch a positive electrode of said cell to either of  
7 an output terminal of said power source circuit or an inputting  
8 section of said step-up DC-DC converter, and a power storing  
9 section mounted in an outputting section of said power source  
10 circuit,

11 wherein said device employing said power source cell is  
12 operated in a manner that, when a discharge voltage of said cell  
13 becomes lower than an operation lower limit voltage of said device

14 to be operated, a voltage output from said power source circuit  
15 for said cell is made higher than said operation lower limit  
16 voltage of said device by using said step-up DC-DC converter.

1 4. The power source circuit for a cell according to Claim 3,  
2 wherein an amount of voltage drop in said cell per unit time is  
3 employed as a factor for detecting termination of discharge of  
4 said cell.

1 5. The power source circuit for a cell according to Claim 3,  
2 wherein said power storing section comprises an electric double  
3 layer capacitor.

1 6. A power source circuit for a cell for controlling transfer  
2 of electric energy from said cell to loads, said power source  
3 circuit comprising a cell voltage detecting circuit to detect a  
4 voltage of said cell, a control circuit, an output voltage  
5 detecting circuit, a step-up DC-DC converter, an inductor, two  
6 or more switching circuits, a power storing section mounted in  
7 said outputting section, wherein said device employing said power  
8 source cell is operated in a manner that, when a discharge voltage  
9 of said cell becomes lower than an operation lower limit voltage  
10 of said device to be operated, a voltage output from said power  
11 source circuit for said cell is made higher than said operation  
12 lower limit voltage of said device by using said step-up DC-DC  
13 converter.

1 7. The power source circuit for a cell according to Claim 6,  
2 wherein an amount of voltage drop in said cell per unit time is

3 employed as a factor for detecting termination of discharge of  
4 said cell.

1 8. The power source circuit for a cell according to Claim 6,  
2 wherein said power storing section comprises an electric double  
3 layer capacitor.

1 9. A cell pack comprising a cell, a power source circuit for  
2 said cell for controlling transfer of electric energy from said  
3 cell to loads, and a case for housing the power source circuit  
4 and the cell therein,

5 wherein a device employing said power source circuit is  
6 operated in a manner that, when a discharge voltage of said cell  
7 becomes lower than an operation lower limit voltage of said device  
8 to be operated, a voltage output from said power source circuit  
9 for said cell is made higher than said operation lower limit  
10 voltage of said device by using a voltage increasing unit.

1 10. The cell pack according to Claim 9, wherein said cell is  
2 a primary cell or a secondary cell.

1 11. A cell pack comprising a cell, a power source circuit for  
2 said cell for controlling transfer of electric energy from said  
3 cell to loads, and a case for housing the power source circuit  
4 and the cell therein,

5 wherein said power source circuit comprises a cell voltage  
6 detecting circuit to detect a voltage of said cell, a discharge  
7 controlling circuit, an output voltage detecting circuit, a

8 step-up DC-DC converter, a switching circuit to switch a positive  
9 electrode of said cell to either of an output terminal of said  
10 power source circuit or an inputting section of said step-up DC-DC  
11 converter, and a power storing section mounted in an outputting  
12 section of said power source circuit, wherein said device  
13 employing said power source cell is operated in a manner that,  
14 when a discharge voltage of said cell becomes lower than an  
15 operation lower limit voltage of said device to be operated, a  
16 voltage output from said power source circuit for said cell is  
17 made higher than said operation lower limit voltage of said device  
18 by using said step-up DC-DC converter.

1 12. The cell pack according to Claim 11, wherein said cell is  
2 a primary cell or a secondary cell.

1 13. A cell pack comprising a cell, a power source circuit for  
2 said cell for controlling transfer of electric energy from said  
3 cell to loads, and a case for housing the power source circuit  
4 and the cell therein,

5 wherein said power source circuit comprises a cell voltage  
6 detecting circuit to detect a voltage of said cell, a control  
7 circuit, an output voltage detecting circuit, a step-up DC-DC  
8 converter, an inductor, two or more switching circuits, a power  
9 storing section mounted in said outputting section, wherein said  
10 device employing said power source cell is operated in a manner  
11 that, when a discharge voltage of said cell becomes lower than  
12 an operation lower limit voltage of said device to be operated,  
13 a voltage output from said power source circuit for said cell is  
14 made higher than said operation lower limit voltage of said device

15 by using said step-up DC-DC converter.

1 14. The cell pack according to Claim 13, wherein said cell is  
2 a primary cell or a secondary cell.